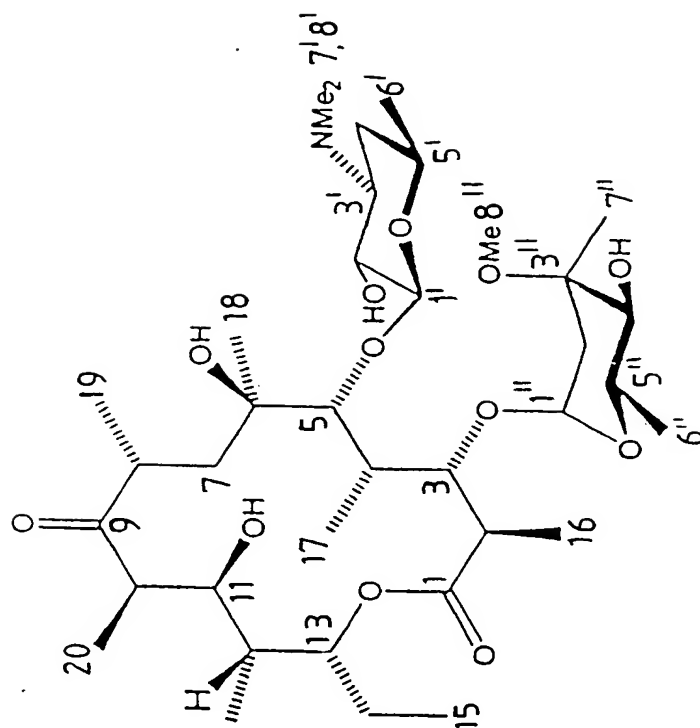
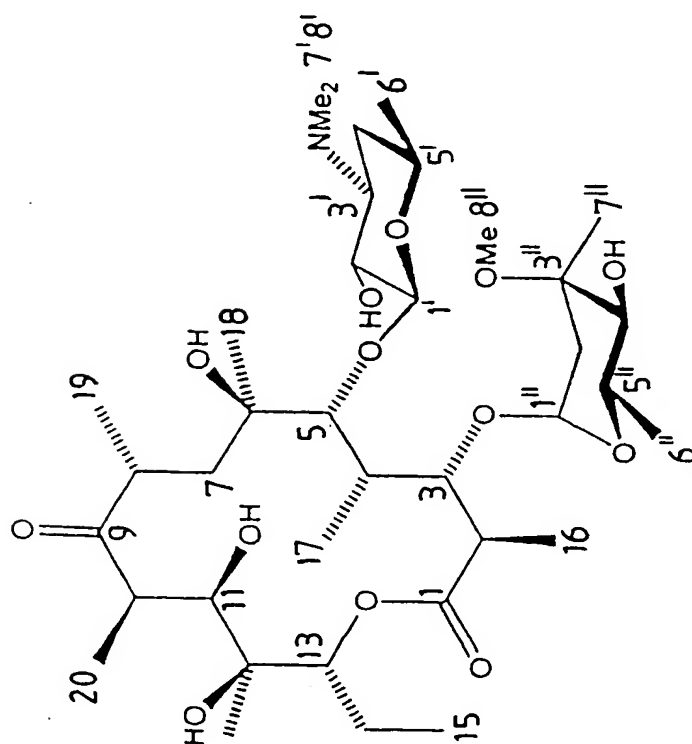
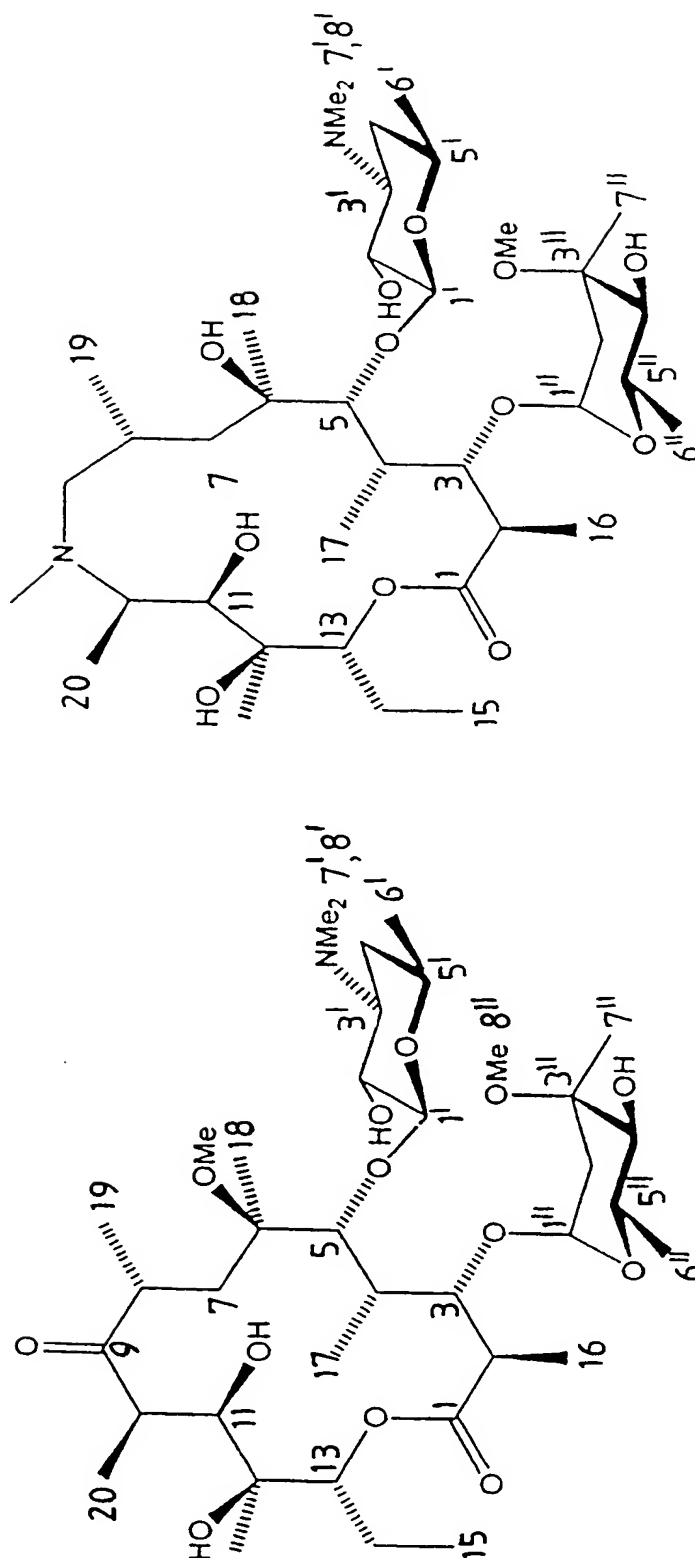
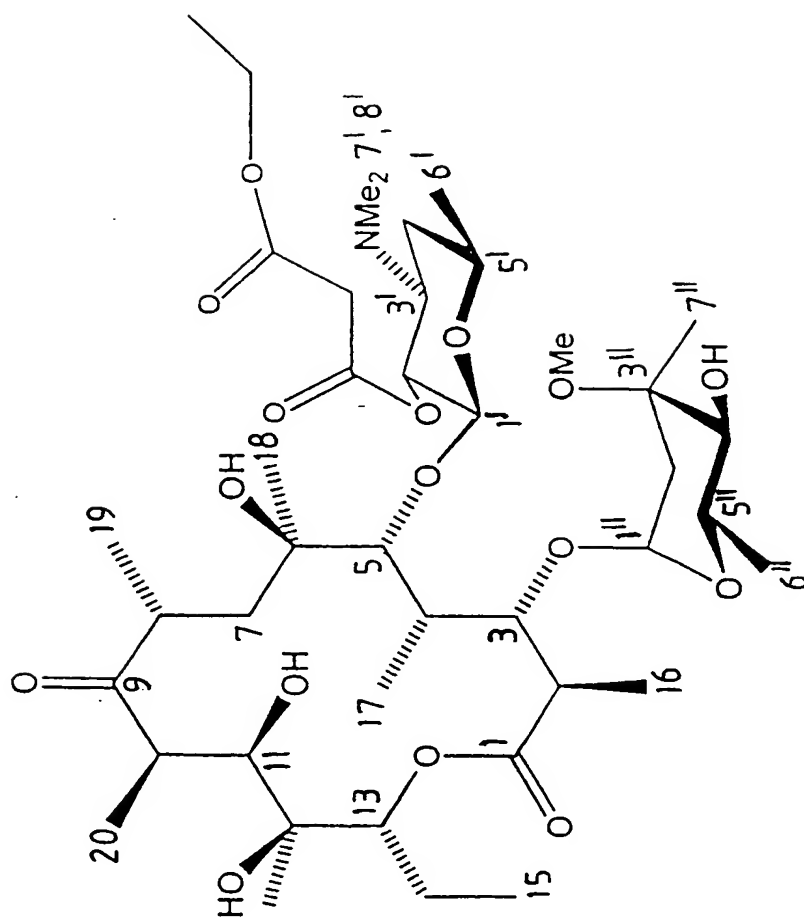


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4 - Erythromycin B1 - Erythromycin AFIG. 1

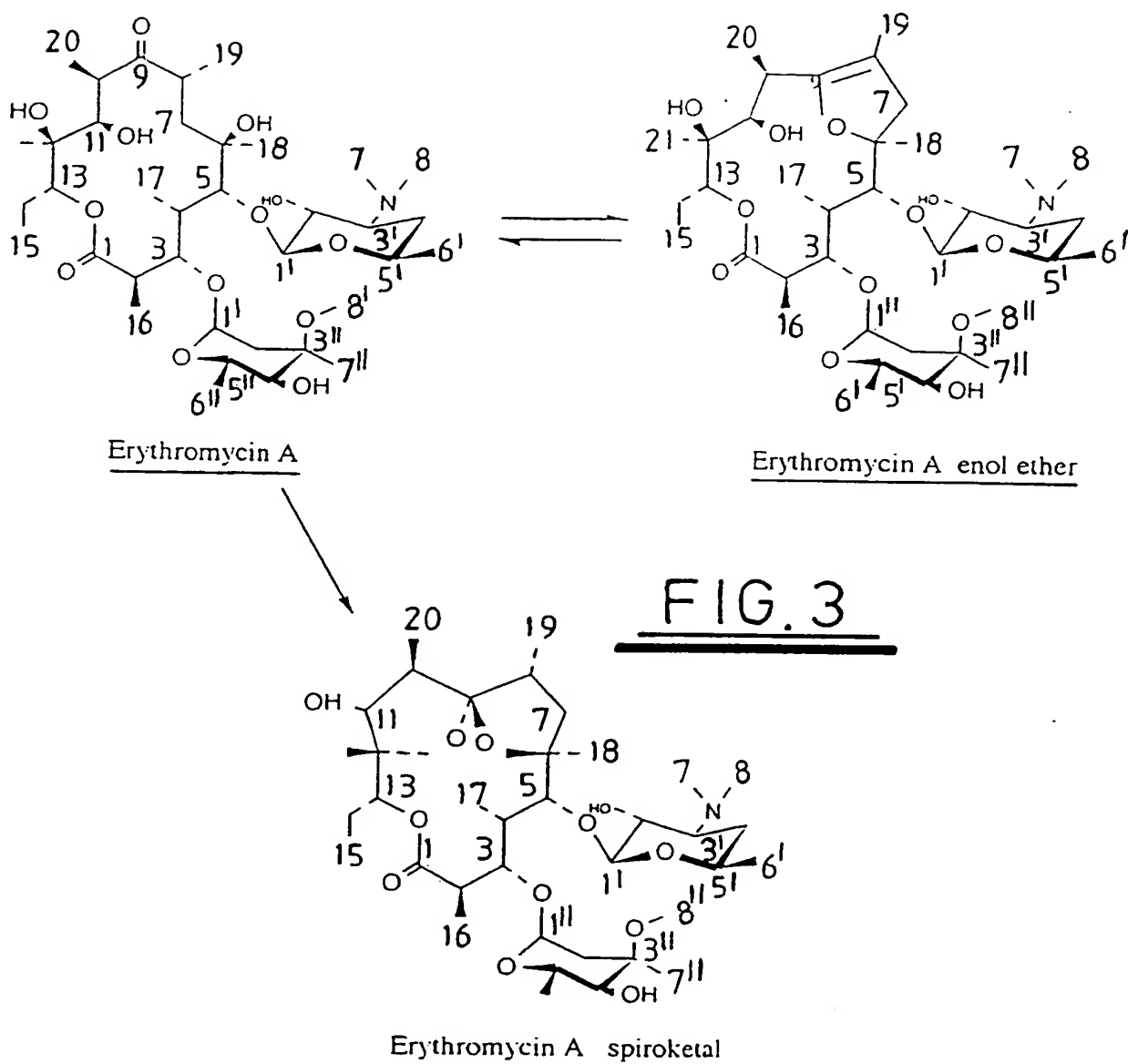
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2-Clarithromycin3-AzithromycinFIG. 1(cont)



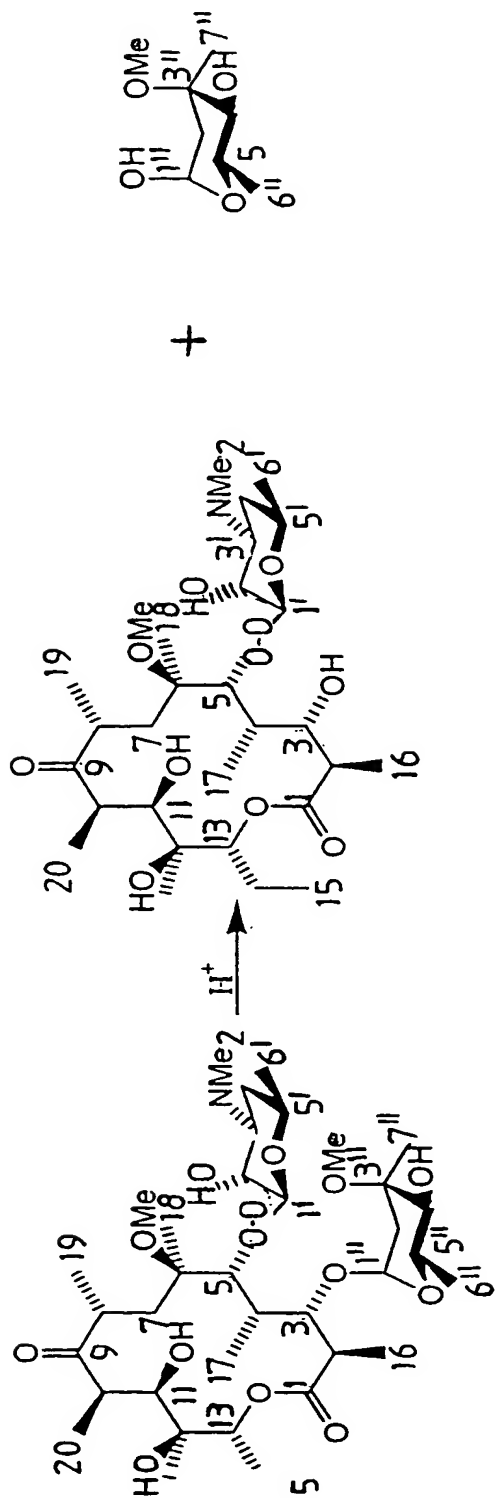
5 - Erythromycin A ethyl succinate

FIG. 2



Decomposition pathway for erythromycin A in aqueous acidic medium

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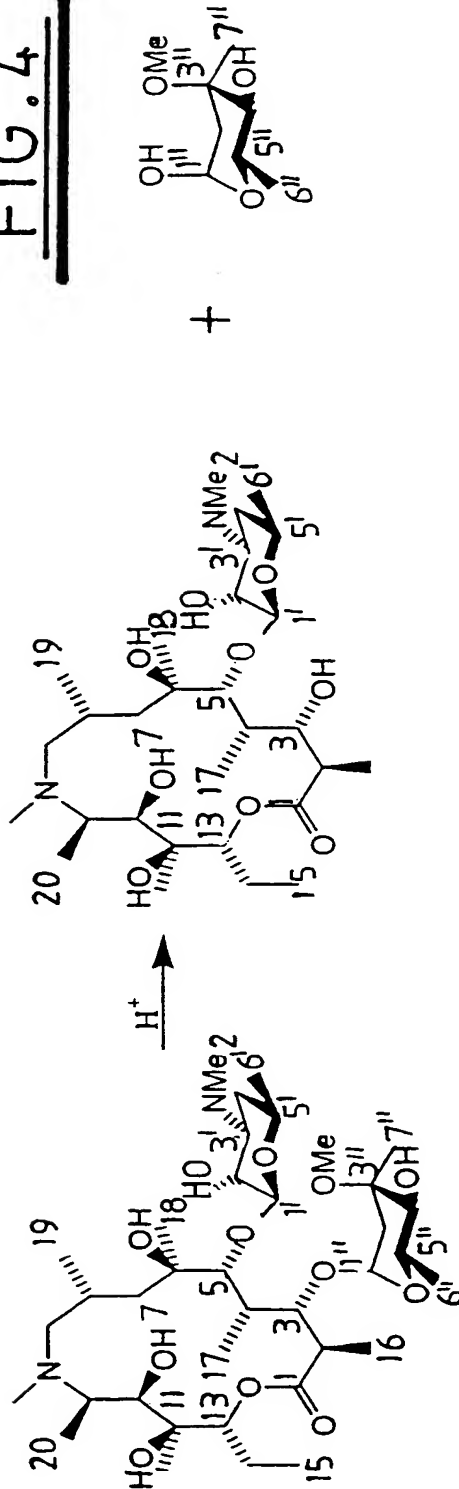


Clarithromycin

5-O-desosaminyl-6-O-methylerythronolide B

cladinose

FIG. 4



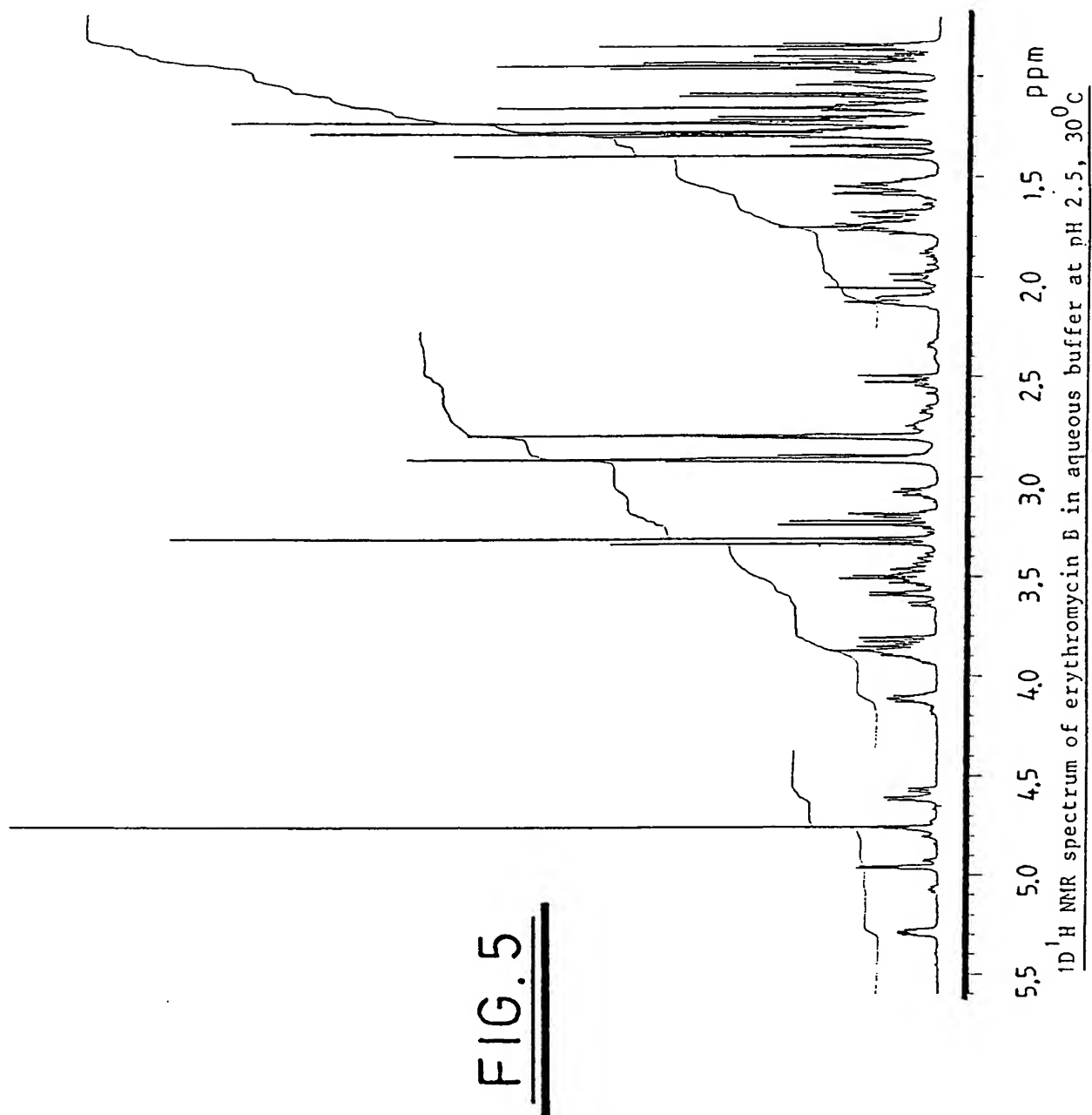
Azithromycin

5-O-desosaminylazalide

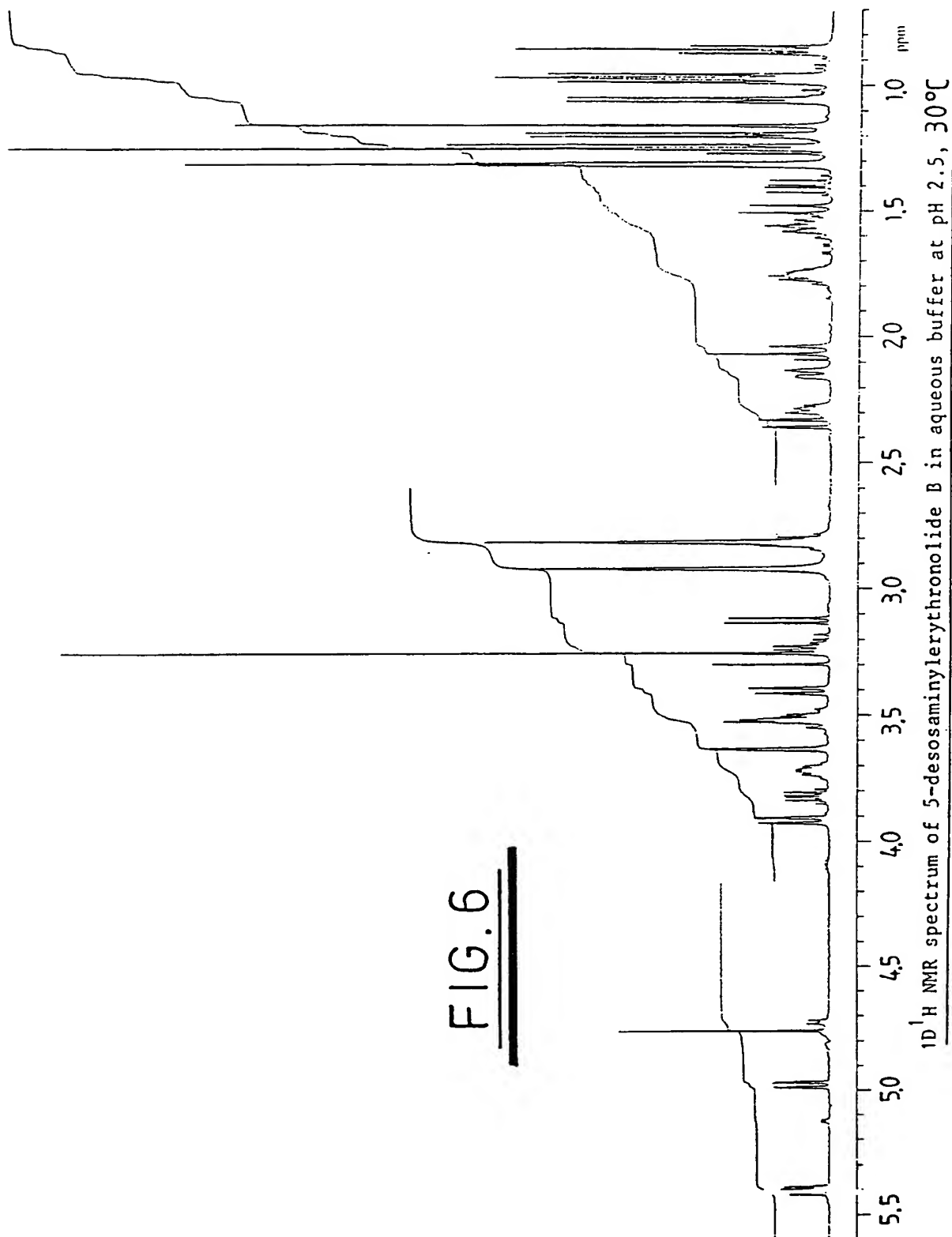
cladinose

Decomposition pathway for Clarithromycin and the azalide, Azithromycin, in acidic aqueous medium

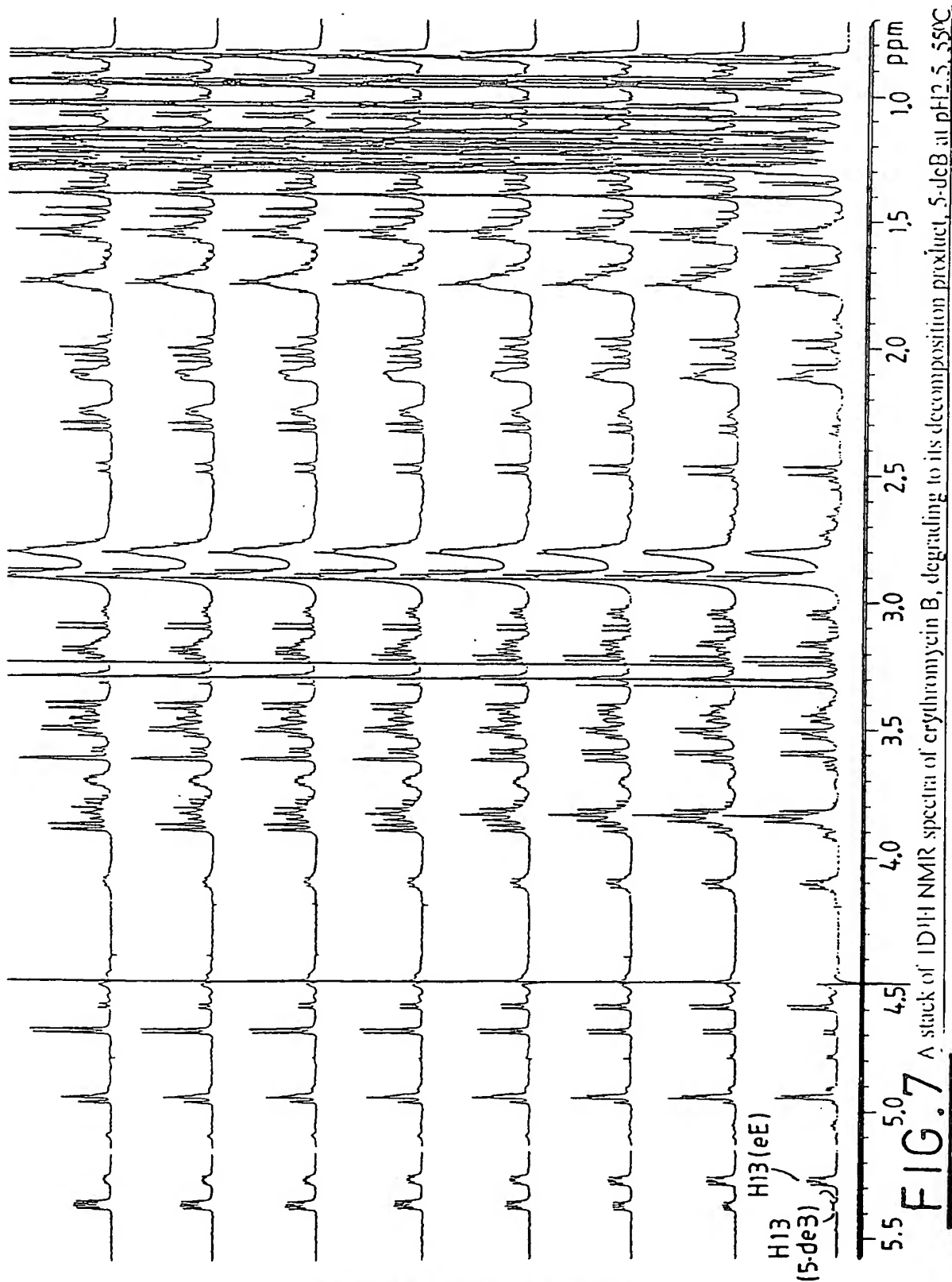
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**FIG. 7**A stack of 1D <sup>1</sup>H NMR spectra of erythromycin B, degrading to its decomposition product, 5-deB at pH 2.5, 55°C



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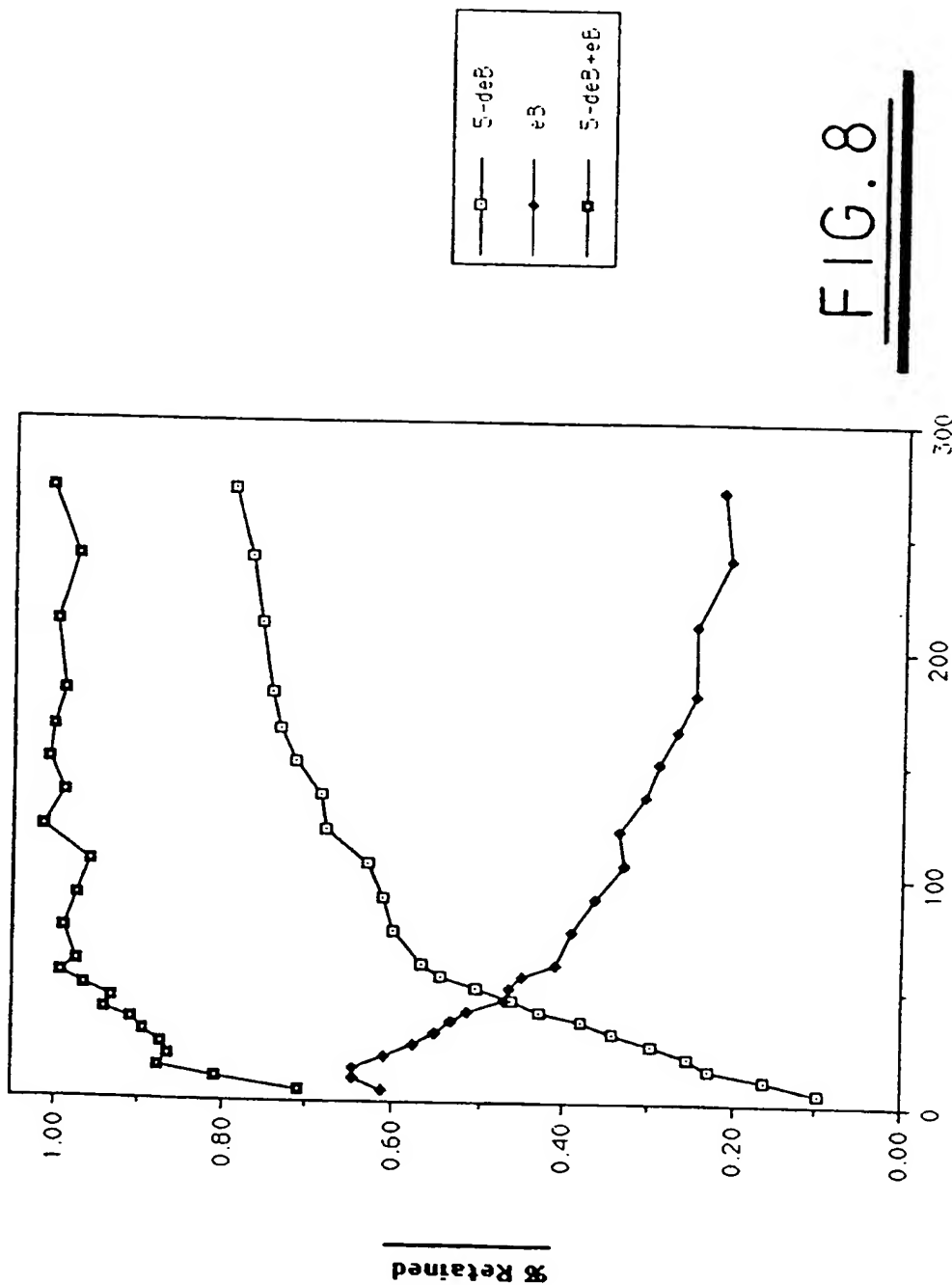
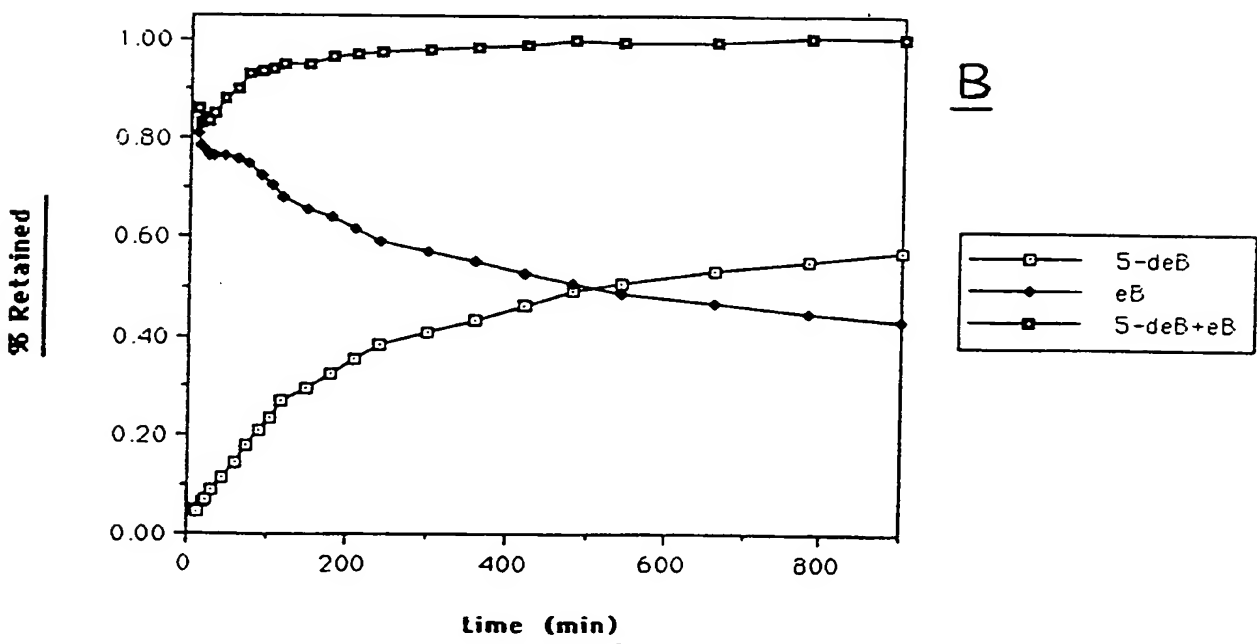
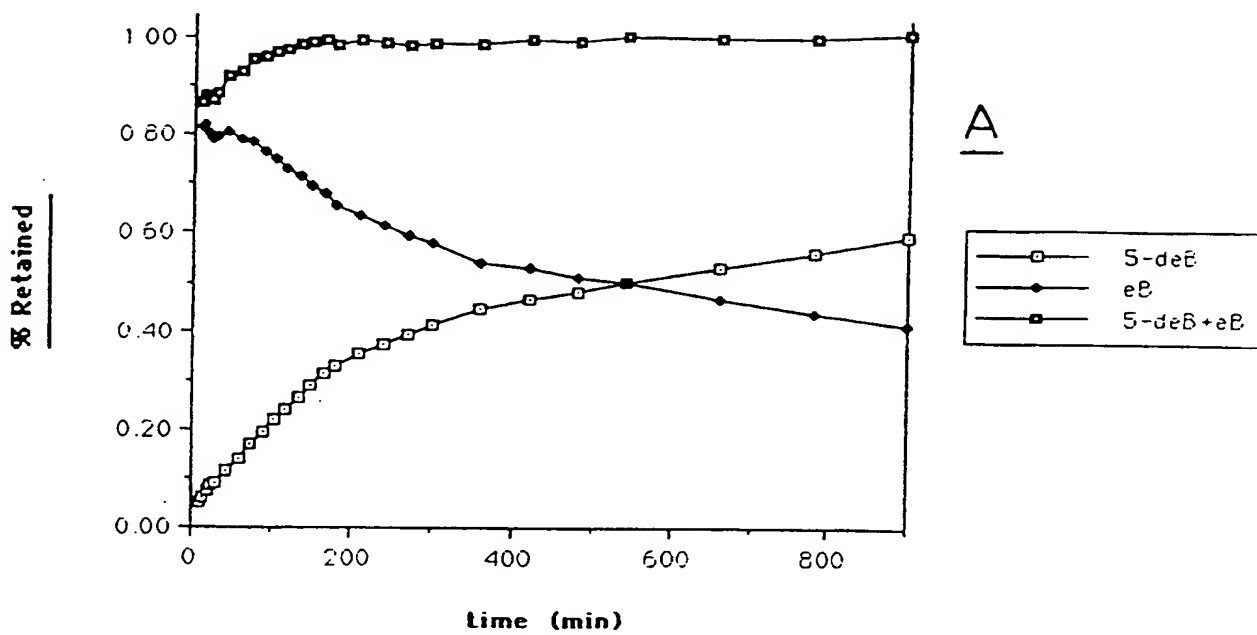


FIG. 8

time (min)

Plot of percentage remained/accumulated in the degradation solution for erythromycin B (eB), 5-deB and the total amount of both erythromycin B and 5-deB (5-deB + eB) in Britton-Robinson buffer, pH 2.5, 55°C

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Plot of percentage remained/accumulated in the degradation solution for erythromycin B (eB), 5-deB and the total amount of both erythromycin B and 5-deB (5-deB + eB) in Britton-Robinson buffer, pH 2.5, and 35°C (A) and 45°C (B)

FIG. 9

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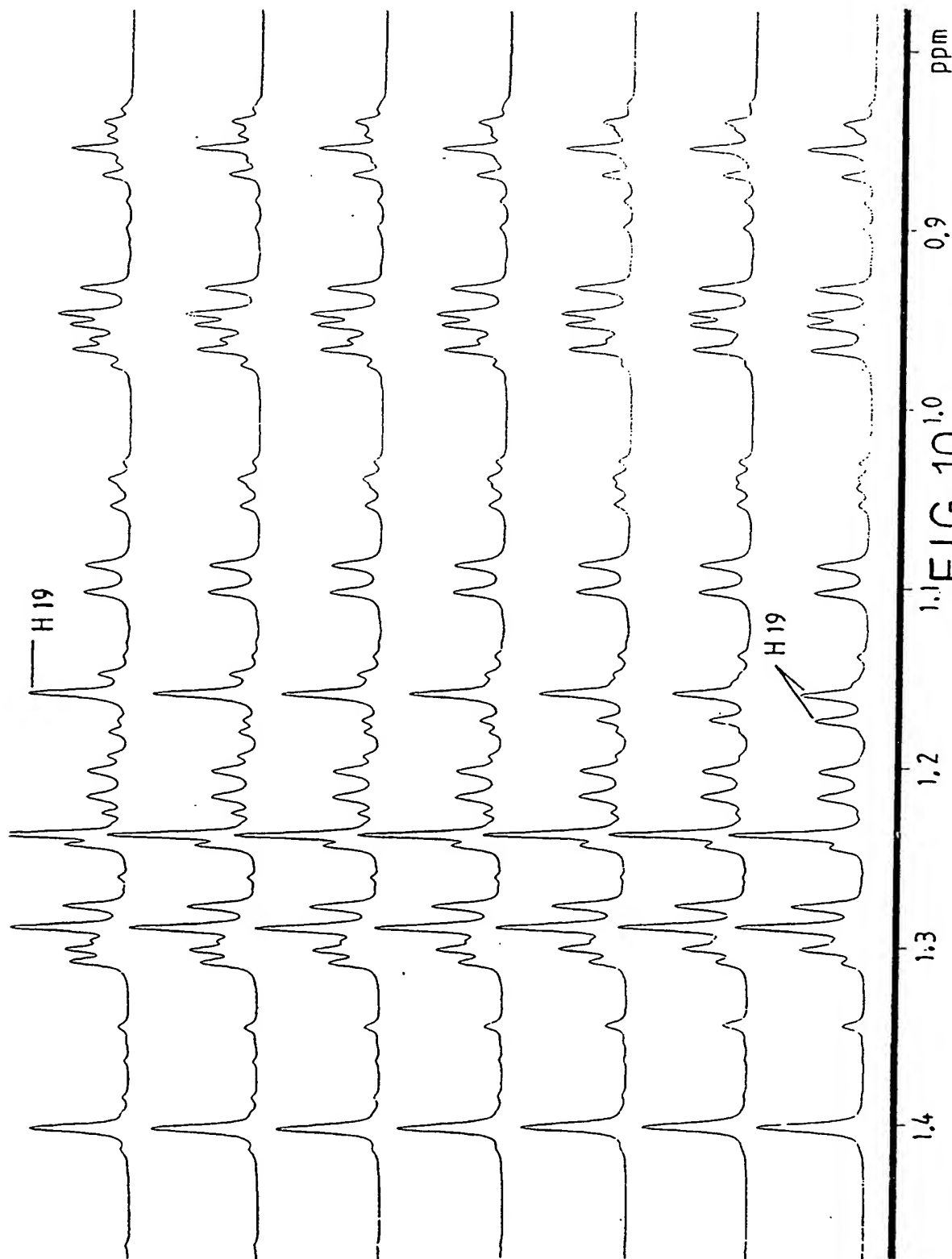


FIG. 10

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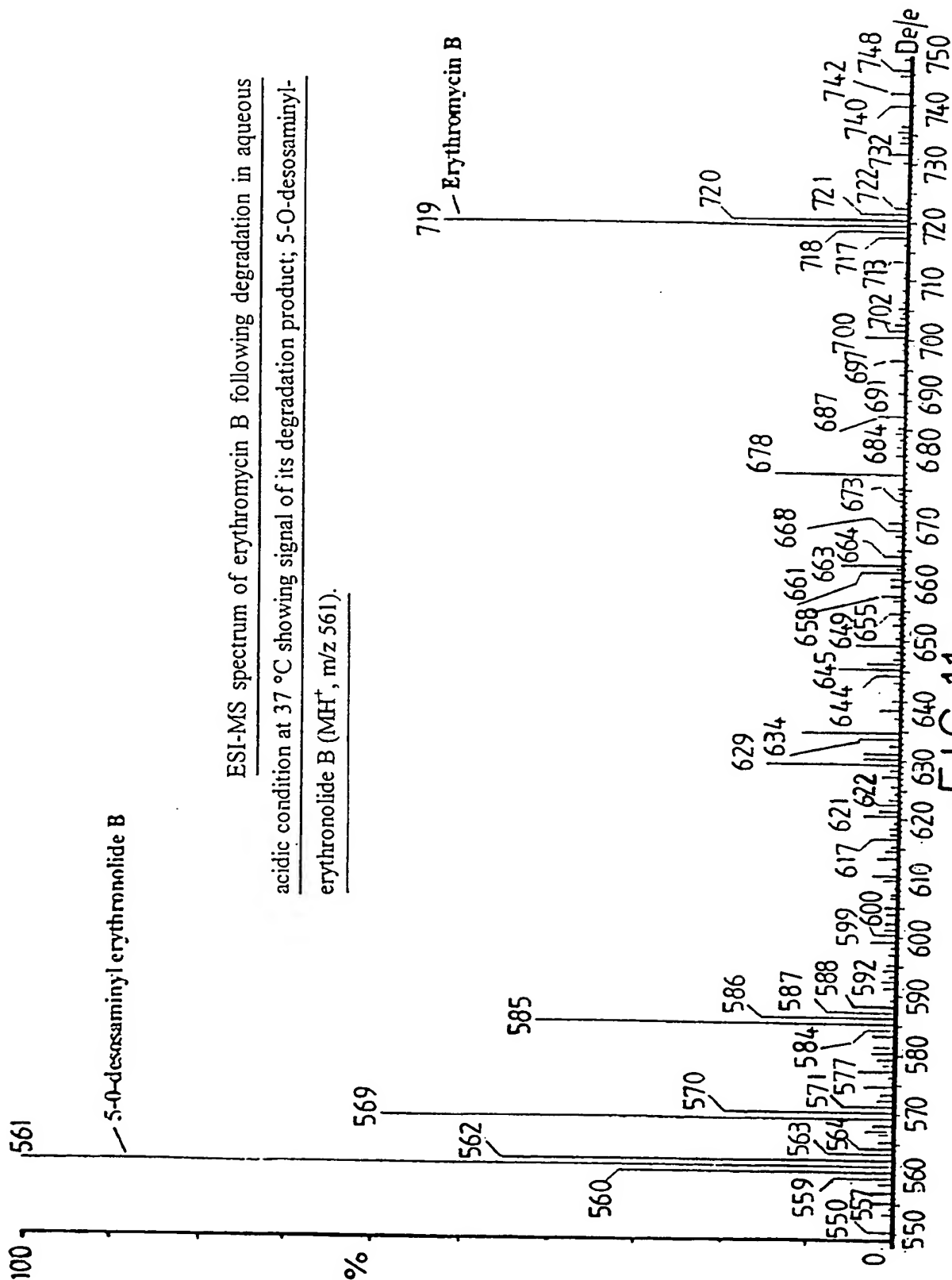


FIG.11

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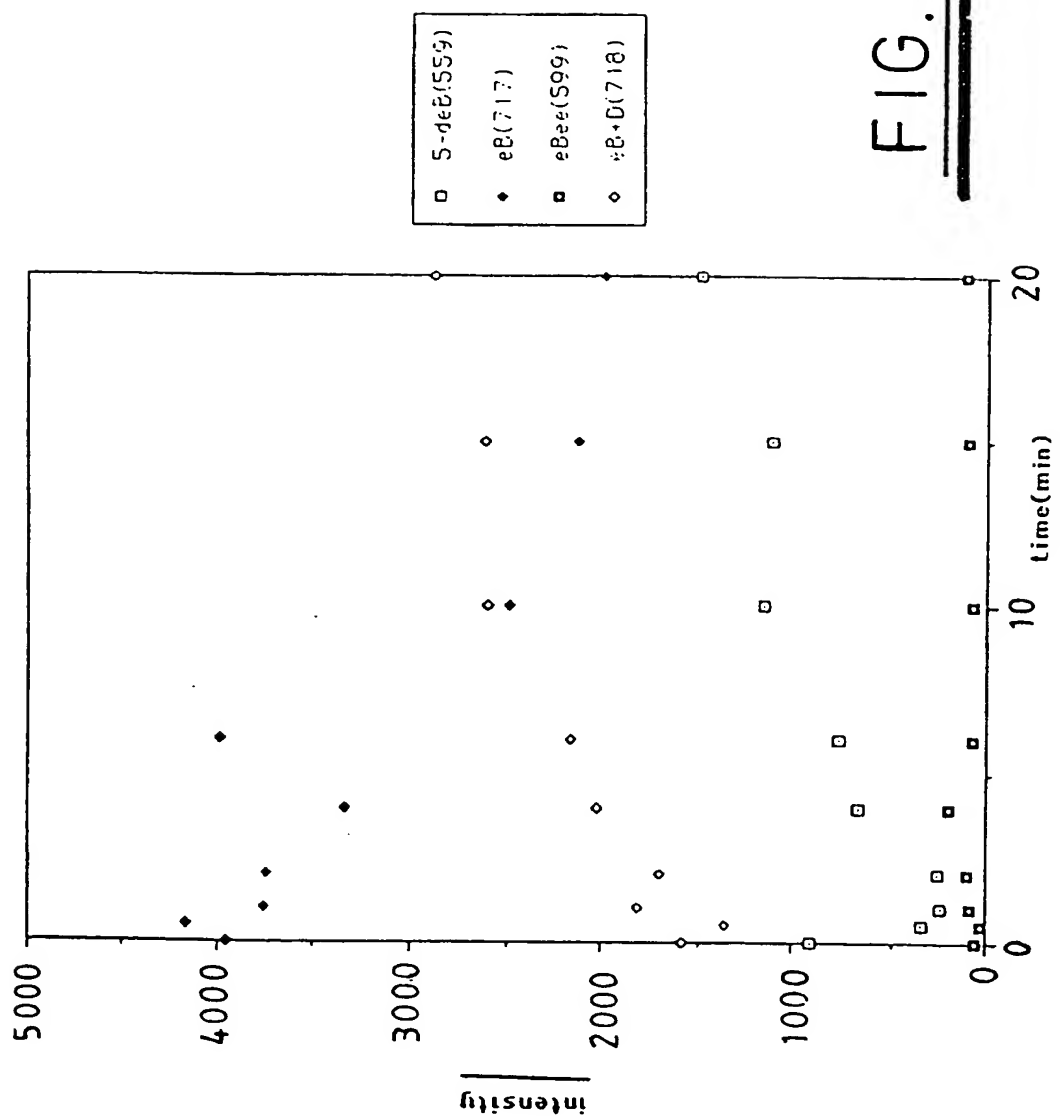
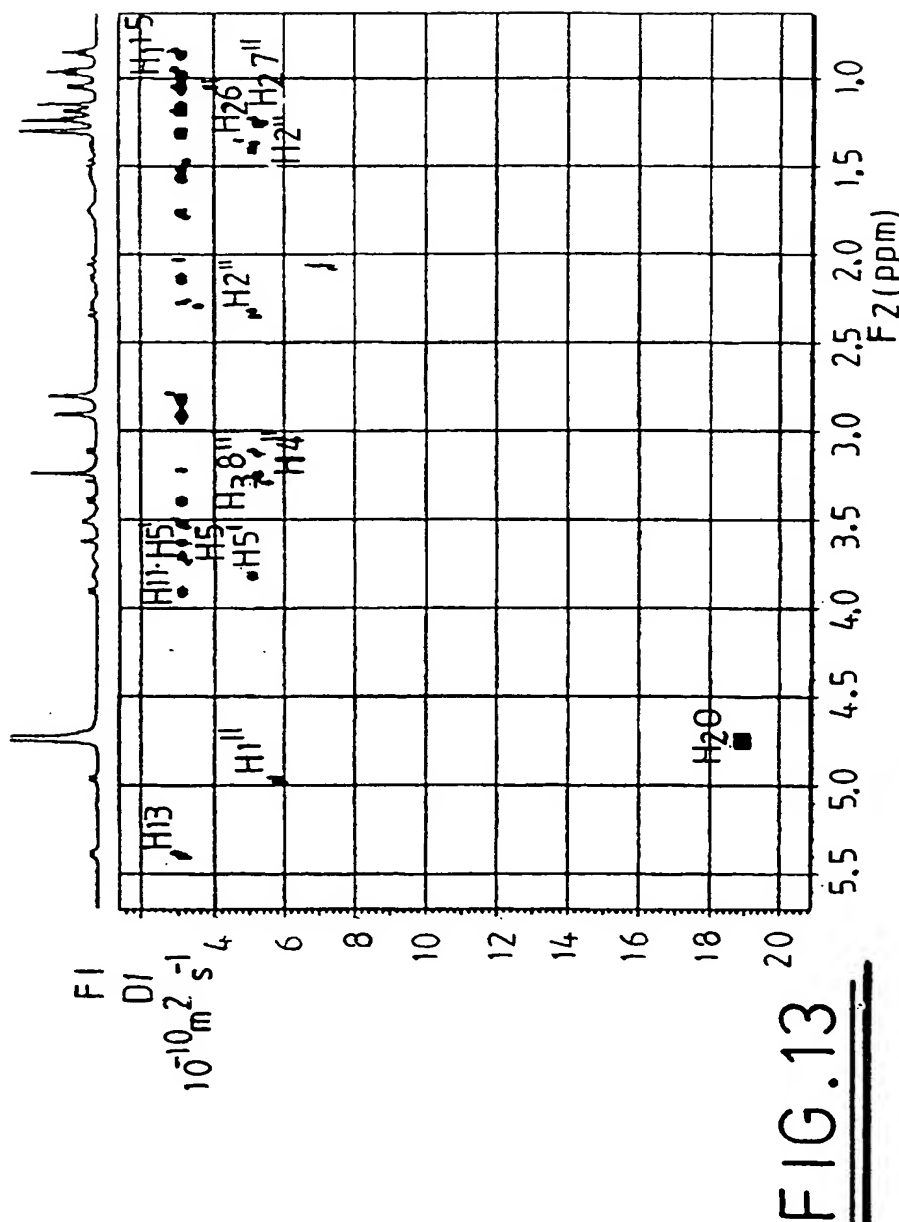
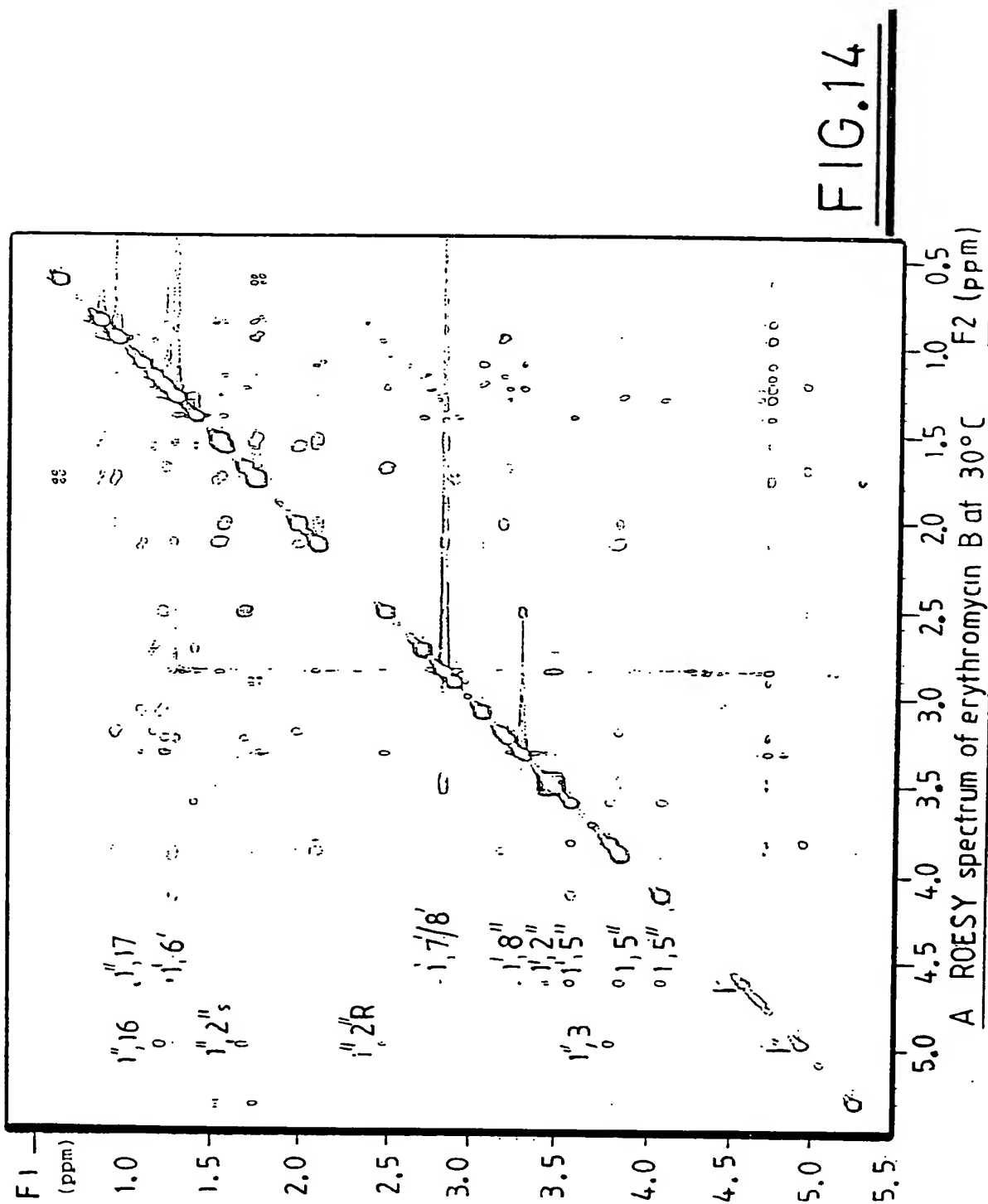


FIG.12

Plot of intensity of erythromycin B (eB, MW 717), erythromycin B-Deuteron (eB+D, MW 718), eBec (MW 599) and 5-deB (MW 559) during the degradation of erythromycin B to 5-deB at pH 2.5, 55°C

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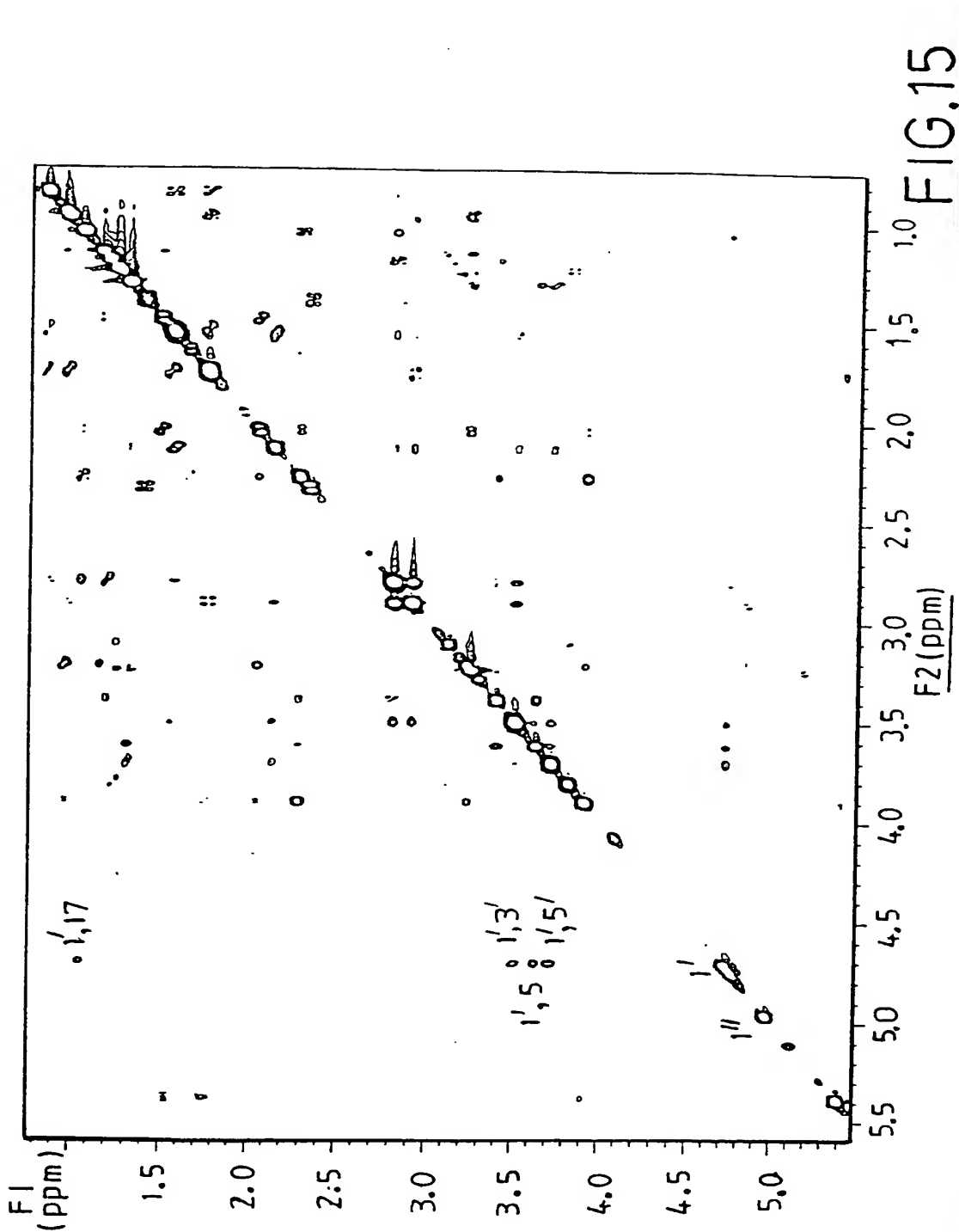
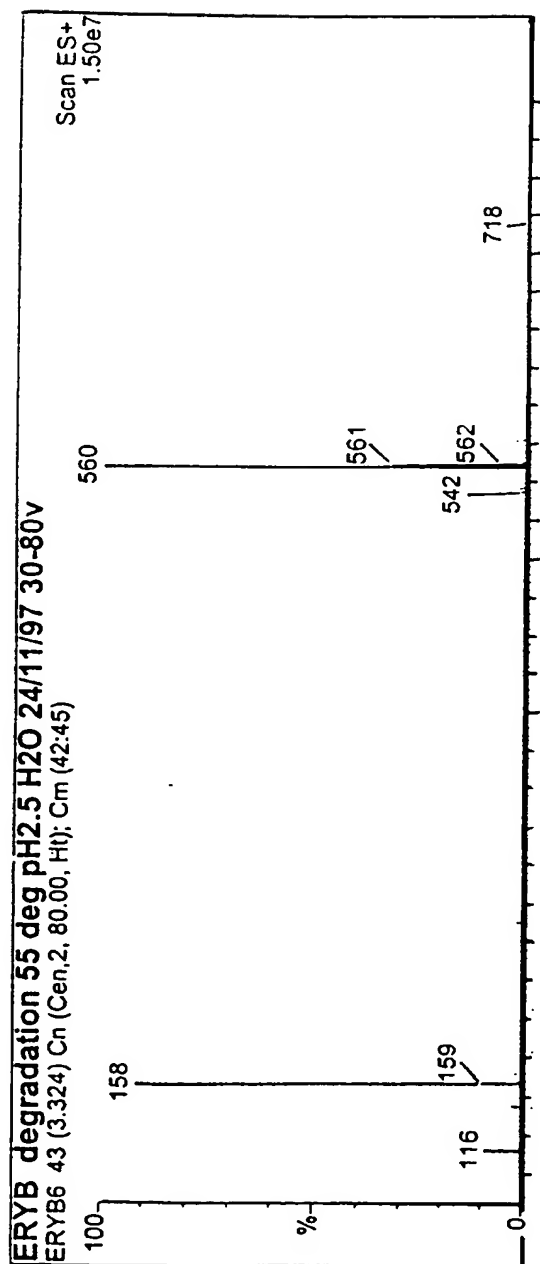


FIG.15

ROESY spectrum at 30°C from degradation mixtures of erythromycin B, containing 5-deB and cladinose



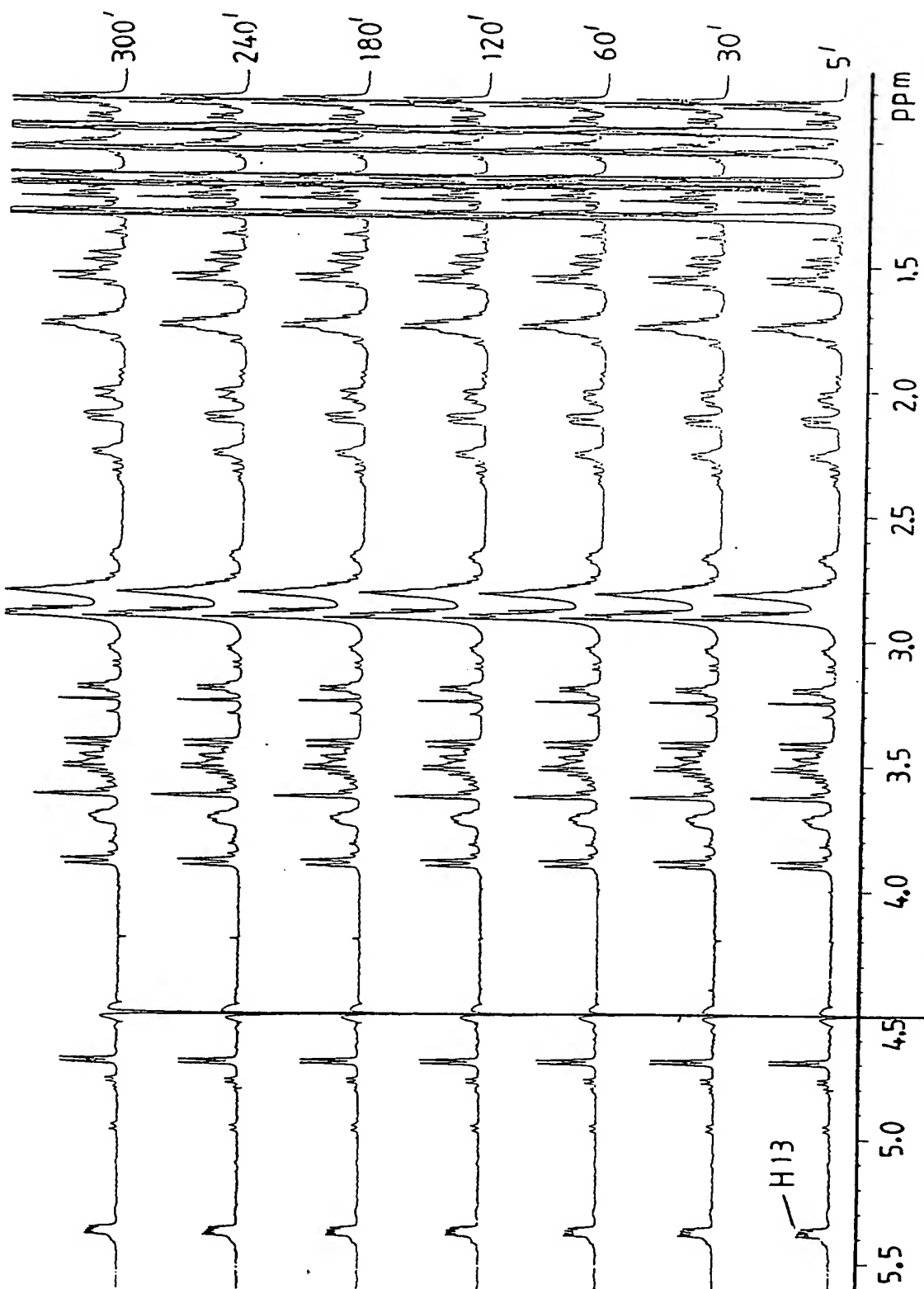
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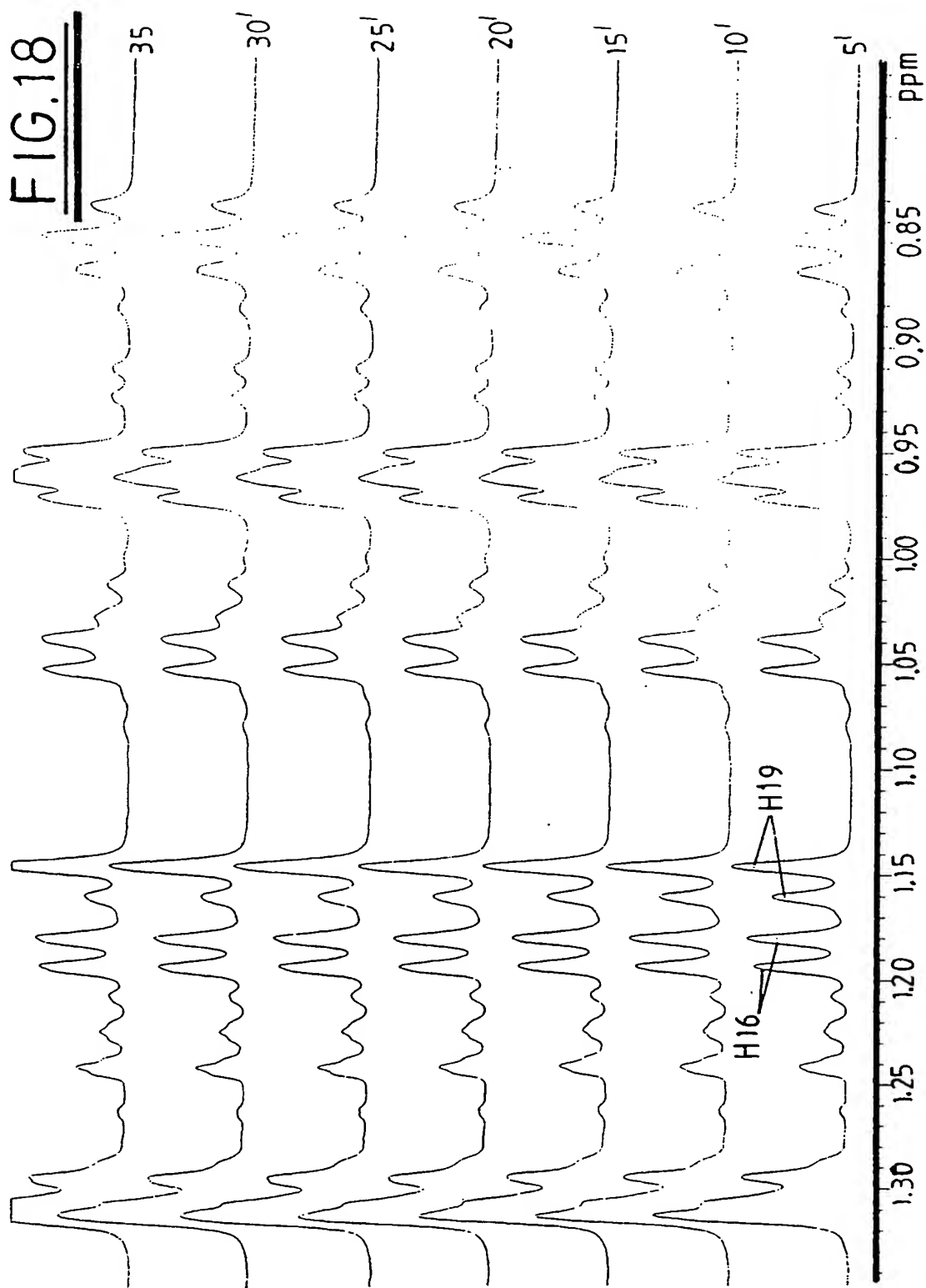
Electrospray-Mass spectrum (in positive mode) of erythromycin B (MW 717), 5-deB (MW 559) and cladinose (MW 157) in protiated buffer, pH 2.5. Please note that the actual mass of every compounds should be less 1 mass unit from the values shown in the spectrum.

**FIG. 16**

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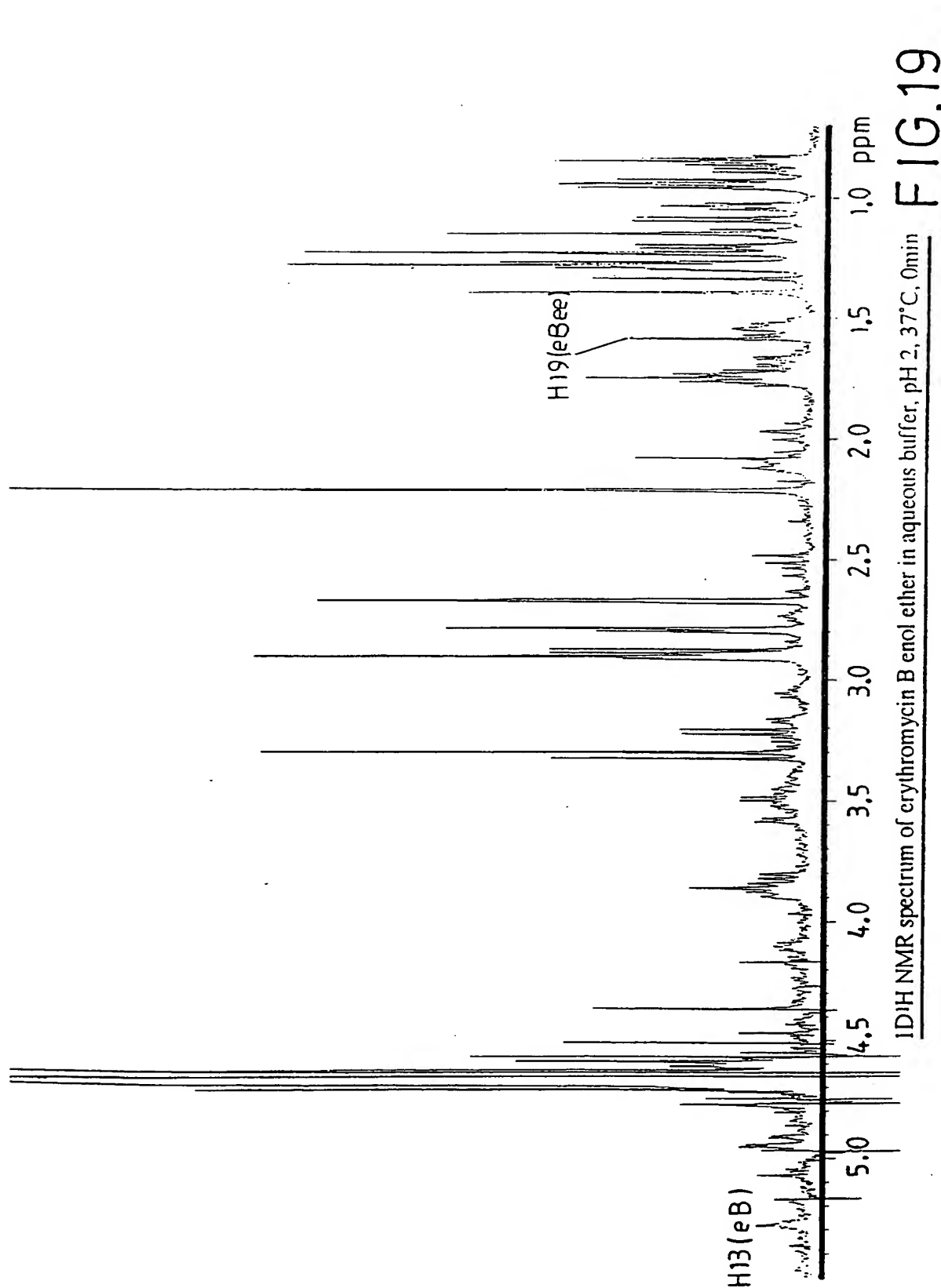
**FIG.17**A stack of 1D <sup>1</sup>H NMR spectra of 5-deB, pH2.5, incubated at 55°C

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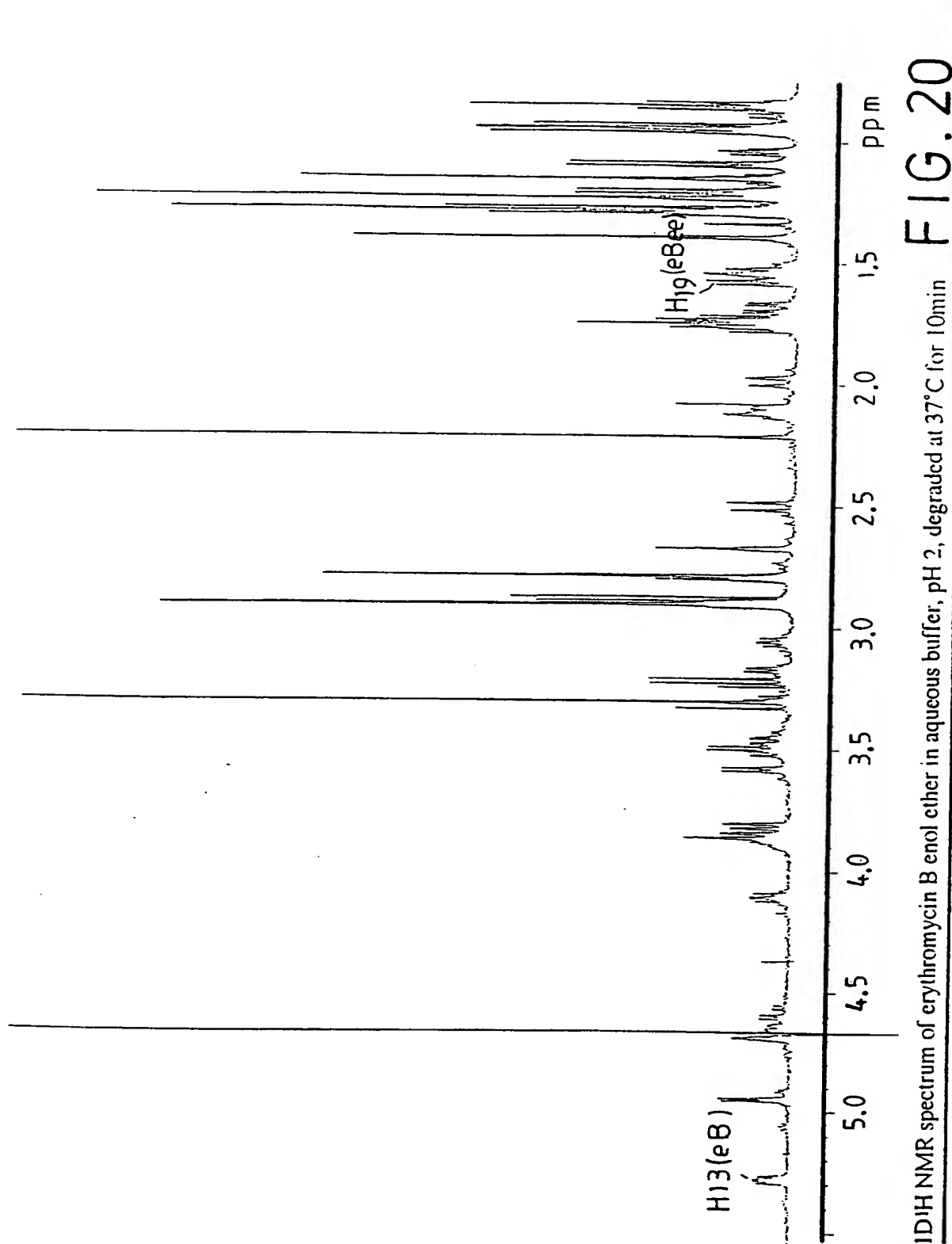


A stack of  $^1\text{H}$  NMR spectra (the downfield 0.8-1.35 ppm) of 5-deB, pH2.5, incubated at 59°C, showing a doublet signal at  $\delta$  1.15 was transformed to a singlet signal at  $\delta$  1.14

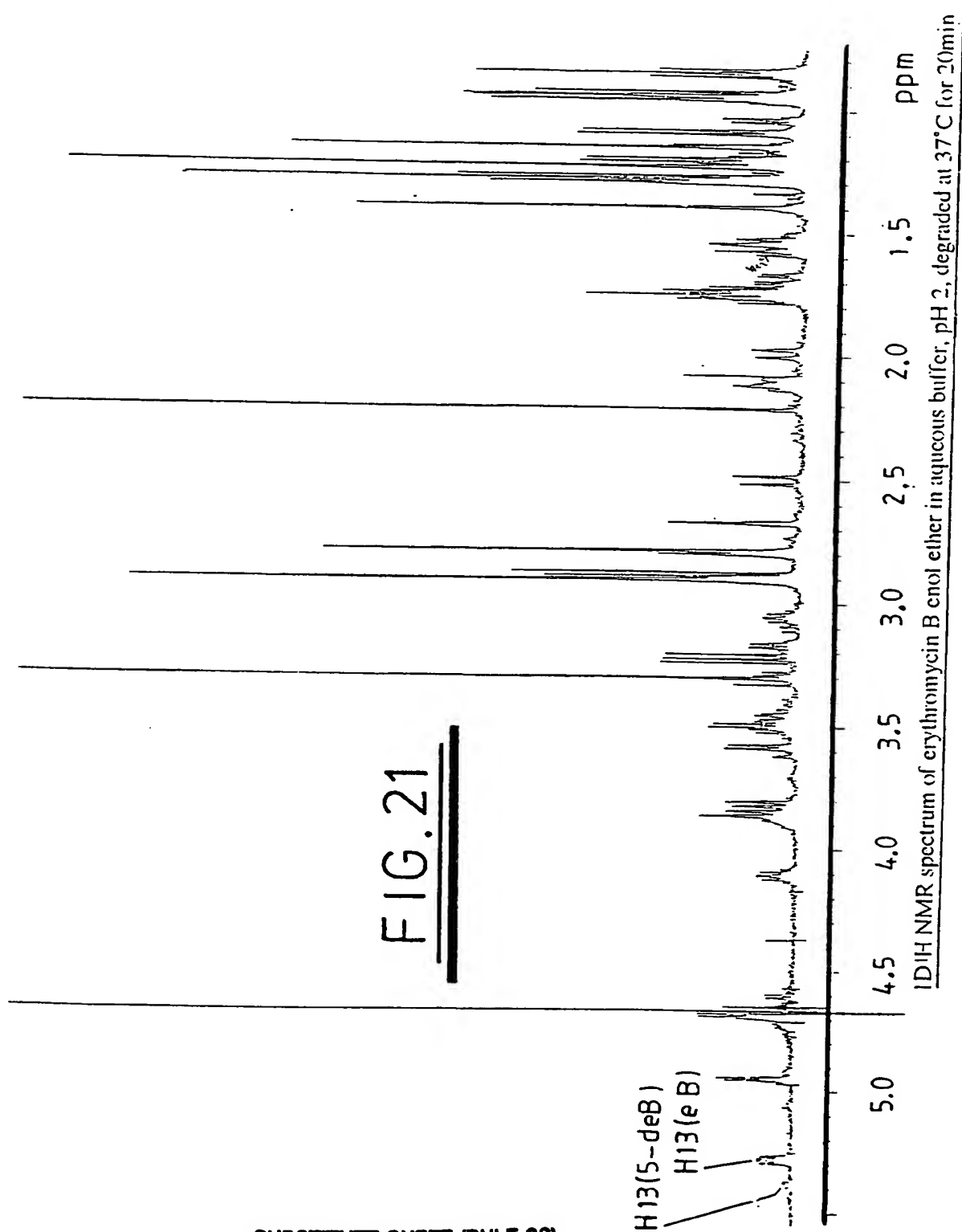
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**FIG.19**

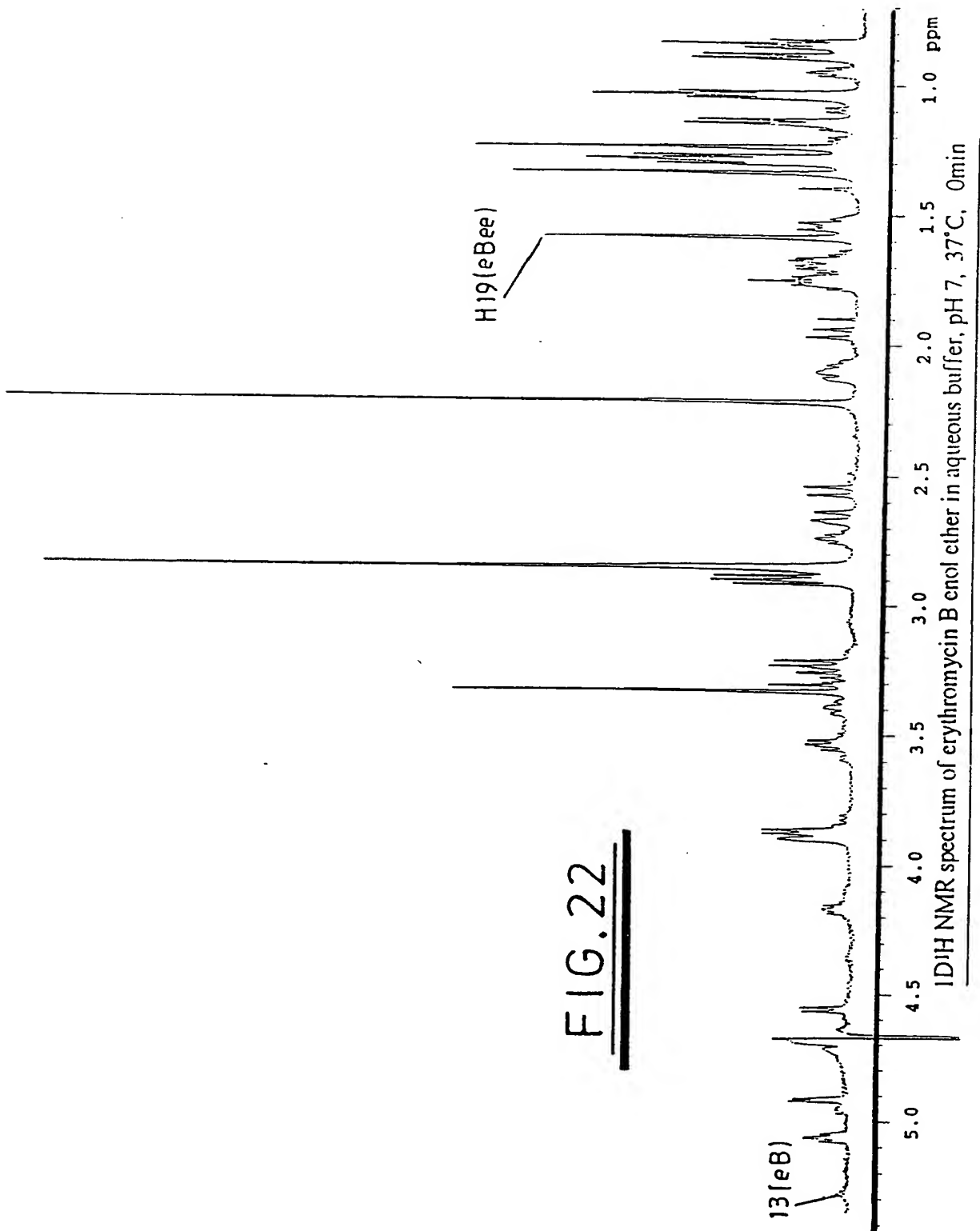
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**FIG. 20**1D  $^1\text{H}$  NMR spectrum of erythromycin B enol ether in aqueous buffer, pH 2, degraded at 37°C for 10 min

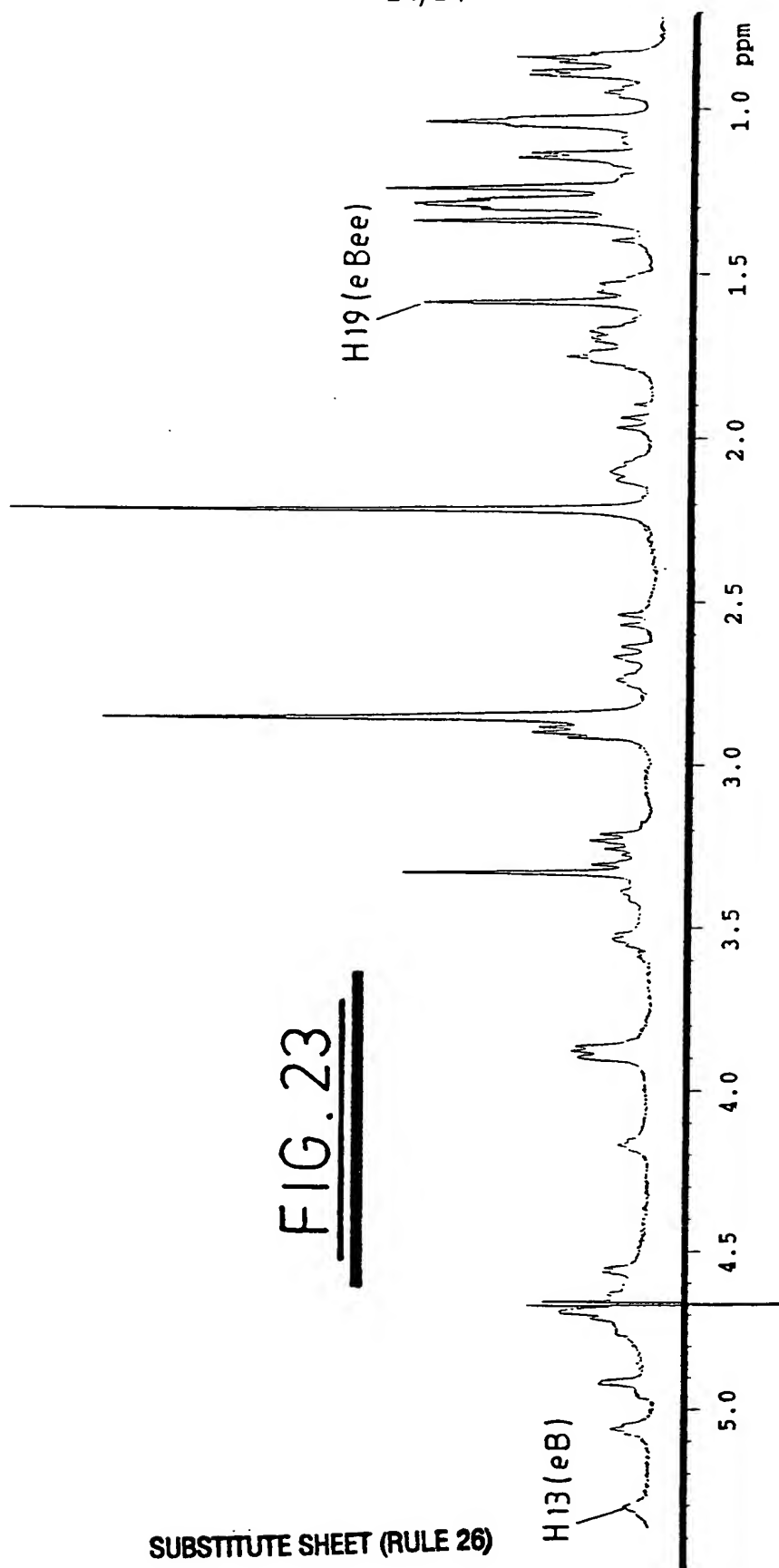
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FIG. 23

1D <sup>1</sup>H NMR spectrum of erythromycin B enol ether in aqueous buffer, pH 7, degraded at 37°C for 80min